

#3



## SEQUENCE LISTING

<110> Anderson, David J  
<120> Schoenherr, Christopher J

<120> Antibodies That Bind Neuron Restrictive Silencer Factor  
Proteins

<130> 17810-502 CIPCON

<140> 09/873,155  
<141> 2000-06-01

<150> 08/894,997  
<151> 1998-01-16

<150> PCT/US96/02817  
<151> 1996-03-01

<150> 08/398,590  
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<170> PatentIn Ver. 2.1

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| Gly | Ala | Pro | Asp | Pro | Gly | Gly | Gly | Cys | Gly | Ser | Arg | Asp | Gly | Arg | Ala | 1   | 5   | 10  | 15  |
| Arg | Pro | Gly | Gly | Leu | Ser | Thr | Leu | Cys | Ser | Pro | Thr | Pro | Gly | Pro | Ser | 20  | 25  | 30  |     |
| Trp | Ser | Thr | Thr | Ala | Pro | Ala | Pro | Asn | Phe | Thr | Thr | Leu | Pro | His | Leu | 35  | 40  | 45  |     |
| Ser | Pro | Glu | Thr | Pro | Ala | Thr | Lys | Lys | Ser | Ser | Arg | Arg | Arg | Ser | Gly | 50  | 55  | 60  |     |
| Asp | Ser | Gly | Ser | Pro | Ala | Pro | Pro | His | Arg | Gly | Arg | Pro | Asn | Thr | Val | 65  | 70  | 75  | 80  |
| Met | Ala | Thr | Gln | Val | Met | Gly | Gln | Ser | Ser | Gly | Gly | Gly | Gly | Leu | Phe | 85  | 90  | 95  |     |
| Thr | Ser | Ser | Gly | Asn | Ile | Gly | Met | Ala | Leu | Pro | Asn | Asp | Met | Tyr | Asp | 100 | 105 | 110 |     |
| Leu | His | Asp | Leu | Ser | Lys | Ala | Glu | Leu | Ala | Ala | Pro | Gln | Leu | Ile | Met | 115 | 120 | 125 |     |
| Leu | Ala | Asn | Val | Ala | Leu | Thr | Gly | Glu | Val | Asn | Gly | Ser | Cys | Cys | Asp | 130 | 135 | 140 |     |
| Tyr | Leu | Val | Gly | Glu | Glu | Arg | Gln | Met | Ala | Glu | Leu | Met | Pro | Val | Gly | 145 | 150 | 155 | 160 |
| Asp | Asn | Asn | Phe | Ser | Asp | Ser | Glu | Glu | Gly | Glu | Gly | Leu | Glu | Glu | Ser | 165 | 170 | 175 |     |
| Ala | Asp | Ile | Lys | Gly | Glu | Pro | His | Gly | Leu | Glu | Asn | Met | Glu | Leu | Arg | 180 | 185 | 190 |     |
| Ser | Leu | Glu | Leu | Ser | Val | Val | Glu | Pro | Gln | Pro | Val | Phe | Glu | Ala | Ser | 195 | 200 | 205 |     |
| Gly | Ala | Pro | Asp | Ile | Tyr | Ser | Ser | Asn | Lys | Asp | Leu | Pro | Pro | Glu | Thr | 210 | 215 | 220 |     |
| Pro | Gly | Ala | Glu | Asp | Lys | Gly | Lys | Ser | Ser | Lys | Thr | Lys | Pro | Phe | Arg | 225 | 230 | 235 | 240 |
| Cys | Lys | Pro | Cys | Gln | Tyr | Glu | Ala | Glu | Ser | Glu | Glu | Gln | Phe | Val | His | 245 | 250 | 255 |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| His | Ile | Arg | Val | His | Ser | Ala | Lys | Lys | Phe | Phe | Val | Glu | Glu | Ser | Ala |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |
| Glu | Lys | Gln | Ala | Lys | Ala | Arg | Glu | Ser | Gly | Ser | Ser | Thr | Ala | Glu | Glu |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |
| Gly | Asp | Phe | Ser | Lys | Gly | Pro | Ile | Arg | Cys | Asp | Arg | Cys | Gly | Tyr | Asn |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |
| Thr | Asn | Arg | Tyr | Asp | His | Tyr | Thr | Ala | His | Leu | Lys | His | His | Thr | Arg |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |
| Ala | Gly | Asp | Asn | Glu | Arg | Val | Tyr | Lys | Cys | Ile | Ile | Cys | Thr | Tyr | Thr |  |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     |     | 335 |  |
| Thr | Val | Ser | Glu | Tyr | His | Trp | Arg | Lys | His | Leu | Arg | Asn | His | Phe | Pro |  |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |
| Arg | Lys | Val | Tyr | Thr | Cys | Gly | Lys | Cys | Asn | Tyr | Phe | Ser | Asp | Arg | Lys |  |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |
| Asn | Asn | Tyr | Val | Gln | His | Val | Arg | Thr | His | Thr | Gly | Glu | Arg | Pro | Tyr |  |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |
| Lys | Cys | Glu | Leu | Cys | Pro | Tyr | Ser | Ser | Ser | Gln | Lys | Thr | His | Leu | Thr |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |  |
| Arg | His | Met | Arg | Thr | His | Ser | Gly | Glu | Lys | Pro | Phe | Lys | Cys | Asp | Gln |  |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |  |
| Cys | Ser | Tyr | Val | Ala | Ser | Asn | Gln | His | Glu | Val | Thr | Arg | His | Ala | Arg |  |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |
| Gln | Val | His | Asn | Gly | Pro | Lys | Pro | Leu | Asn | Cys | Pro | His | Cys | Asp | Tyr |  |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |
| Lys | Thr | Ala | Asp | Arg | Ser | Asn | Phe | Lys | Lys | His | Val | Glu | Leu | His | Val |  |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |
| Asn | Pro | Arg | Gln | Phe | Asn | Cys | Pro | Val | Cys | Asp | Tyr | Ala | Ala | Ser | Lys |  |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |  |
| Lys | Cys | Asn | Leu | Gln | Tyr | His | Phe | Lys | Ser | Lys | His | Pro | Thr | Cys | Pro |  |
|     |     |     |     | 485 |     |     |     | 490 |     |     |     |     |     | 495 |     |  |
| Asn | Lys | Thr | Met | Asp | Val | Ser | Lys | Val | Lys | Leu | Lys | Lys | Thr | Lys | Lys |  |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |

Arg Glu Ala Asp Leu Pro Asp Asn Ile Thr Asn Glu Lys Thr Glu Ile  
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 Glu Gln Thr Lys Ile Lys Gly Asp Val Ala Gly Lys Lys Asn Glu Lys  
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 Ser Val Lys Ala Glu Lys Arg Asp Val Ser Lys Glu Lys Lys Pro Ser  
 545 550 555 560  
 Asn Asn Val Ser Val Ile Gln Val Thr Thr Arg Thr Arg Lys Ser Val  
 565 570 575  
 Thr Glu Val Lys Glu Met Asp Val His Thr Gly Ser Asn Ser Glu Lys  
 580 585 590  
 Phe Ser Lys Thr Lys Lys Ser Lys Arg Lys Leu Glu Val Asp Ser His  
 595 600 605  
 Ser Leu His Gly Pro Val Asn Asp Glu Glu Ser Ser Thr Lys Lys Lys  
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 Lys Lys Val Glu Ser Lys Ser Lys Asn Asn Ser Gln Glu Val Pro Lys  
 625 630 635 640  
 Gly Asp Ser Lys Val Glu Glu Asn Lys Lys Gln Asn Thr Cys Met Lys  
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Val His His Ile Arg Val His  
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20 25 30

<210> 43  
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<212> PRT  
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<223> Zinc finger region Z3

<220>  
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<400> 43  
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Arg Lys His Leu Arg Asn His Phe Pro Arg Lys Val  
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<210> 44  
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<400> 44  
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1 5 10 15  
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<400> 45  
Tyr Lys Cys Glu Leu Cys Pro Tyr Ser Ser Ser Gln Lys Thr His Leu  
1 5 10 15  
Thr Arg His Met Arg Thr His Ser Gly Glu Lys Pro  
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<223> Zinc finger domain Z6

<400> 46  
Phe Lys Cys Asp Gln Cys Ser Tyr Val Ala Ser Asn Gln His Glu Val

|     |     |     |     |
|-----|-----|-----|-----|
| 1   | 5   | 10  | 15  |
| Thr | Arg | His | Ala |
|     | Arg | Gln | Val |
|     | His | Asn | Gly |
|     |     | Pro | Lys |
|     |     | Pro |     |
|     | 20  | 25  |     |

<210> 47  
 <211> 28  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> DOMAIN  
 <222> (1)..(28)  
 <223> Zinc finger domain Z7

|   |
|---|
| <400> 47  |
| Leu Asn Cys Pro His Cys Asp Tyr Lys Thr Ala Asp Arg Ser Asn Phe |
| 1 5 10 15   |

|     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Lys | His | Val | Glu | Leu | His | Val | Asn | Pro | Arg | Gln |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |

<210> 48  
 <211> 24  
 <212> PRT  
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<220>  
 <221> DOMAIN  
 <222> (1)..(24)  
 <223> Zinc finger domain Z8

|   |
|---|
| <400> 48  |
| Phe Asn Cys Pro Val Cys Asp Tyr Ala Ala Ser Lys Lys Cys Asn Leu |
| 1 5 10 15   |

|     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Tyr | His | Phe | Lys | Ser | Lys | His |
|     |     |     |     | 20  |     |     |     |

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<220>

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 <223> Human NSRF

<400> 49

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 <223> Human NSRF

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Asn Asn Ser Ala Asn Met Gly Met Xaa Leu Thr Asn Asp Met Tyr Asp  
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|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| Leu | His | Glu | Leu | Ser | Lys | Ala | Glu | Leu | Ala | Ala | Pro | Gln | Leu | Ile | Met |  |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |  |
| Leu | Ala | Asn | Val | Ala | Leu | Thr | Gly | Glu | Ala | Ser | Gly | Ser | Cys | Cys | Asp |  |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |  |
| Tyr | Leu | Val | Gly | Glu | Glu | Arg | Gln | Met | Ala | Glu | Leu | Met | Pro | Val | Gly |  |  |  |
|     | 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |  |
| Asp | Asn | His | Phe | Ser | Glu | Ser | Glu | Gly | Glu | Gly | Leu | Glu | Glu | Ser | Ala |  |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |  |
| Asp | Leu | Lys | Gly | Leu | Glu | Asn | Met | Glu | Leu | Gly | Ser | Leu | Glu | Leu | Ser |  |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |  |
| Ala | Val | Glu | Pro | Gln | Pro | Val | Phe | Glu | Ala | Ser | Ala | Ala | Pro | Glu | Ile |  |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |  |
| Tyr | Ser | Ala | Asn | Lys | Asp | Pro | Ala | Pro | Glu | Thr | Pro | Val | Ala | Glu | Asp |  |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |  |
| Lys | Cys | Arg | Ser | Ser | Lys | Ala | Lys | Pro | Phe | Arg | Cys | Lys | Pro | Cys | Gln |  |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |  |
| Tyr | Glu | Ala | Glu | Ser | Glu | Glu | Gln | Phe | Val | His | His | Ile | Arg | Ile | His |  |  |  |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     | 175 |     |     |  |  |  |
| Ser | Ala | Lys | Lys | Phe | Phe | Val | Glu | Glu | Ser | Ala | Glu | Lys | Gln | Ala | Lys |  |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |  |
| Ala | Trp | Glu | Ser | Gly | Ser | Ser | Pro | Ala | Glu | Glu | Gly | Glu | Phe | Ser | Lys |  |  |  |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |  |
| Gly | Pro | Ile | Arg | Cys | Asp | Arg | Cys | Gly | Tyr | Asn | Thr | Asn | Arg | Tyr | Asp |  |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |  |
| His | Tyr | Met | Ala | His | Leu | Lys | His | His | Leu | Arg | Ala | Gly | Glu | Asn | Glu |  |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |  |
| Arg | Ile | Tyr | Lys | Cys | Ile | Ile | Cys | Thr | Tyr | Thr | Thr | Val | Ser | Glu | Tyr |  |  |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |  |
| His | Trp | Arg | Lys | His | Leu | Arg | Asn | His | Phe | Pro | Arg | Lys | Val | Tyr | Thr |  |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |  |
| Cys | Ser | Lys | Cys | Asn | Tyr | Phe | Ser | Asp | Arg | Lys | Asn | Asn | Tyr | Val | Gln |  |  |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |  |

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Pro Tyr Ser Ser Ser Gln Lys Thr His Leu Thr Arg His Met Arg Thr  
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His Ser Gly Glu Lys Pro Phe Lys Cys Asp Glu Cys Asn Tyr Val Ala  
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Ser Asn Gln His Glu Val Thr Arg His Ala Arg Gln Val His Asn Gly  
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Pro Lys Pro Leu Asn Cys Pro His Cys Asp Tyr Lys Thr Ala Asp Arg  
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Tyr His Phe Lys Ser Lys His Pro Thr Cys Pro Ser Lys Thr Met Asp  
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 Gly Leu Ala Glu Met Glu Pro Ser Pro Thr Glu Pro Ser Gln Lys Glu  
 610 615 620  
 Pro Pro Pro Ser Met Glu Pro Pro Cys Pro Glu Glu Leu Pro Gln Ala  
 625 630 635 640  
 Glu Pro Pro Pro Met Glu Asp Cys Gln Lys Glu Leu Pro Ser Pro Val  
 645 650 655  
 Glu Pro Ala Gln Ile Glu Val Ala Gln Thr Ala Pro Thr Gln Val Gln  
 660 665 670  
 Glu Glu Pro Pro Pro Val Ser Glu Pro Pro Arg Val Lys Pro Thr Lys  
 675 680 685  
 Arg Ser Ser Leu Arg Lys Asp Arg Ala Glu Lys Glu Leu Ser Leu Leu  
 690 695 700  
 Ser Glu Met Ala Arg Gln Glu Gln Val Leu Met Gly Val Gly Leu Val  
 705 710 715 720  
 Pro Val Arg Asp Ser Lys Leu Leu Lys Gly Asn Lys Ser Ala Gln Asp  
 725 730 735  
 Pro Pro Ala Pro Pro Ser Pro Ser Pro Lys Gly Asn Ser Arg Glu Glu  
 740 745 750  
 Thr Pro Lys Asp Gln Glu Met Val Ser Asp Gly Glu Gly Thr Ile Val  
 755 760 765  
 Phe Pro Leu Lys Lys Gly Gly Pro Glu Glu Ala Gly Glu Ser Pro Ala  
 770 775 780  
 Glu Leu Ala Ala Leu Lys Glu Ser Ala Arg Val Ser Ser Ser Glu Gln  
 785 790 795 800



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Asn | Ser | Ala | Met | Pro | Glu | Gly | Gly | Ala | Ser | His | Ser | Lys | Cys | Gln | Thr |  |  |
|     |     |     |     | 805 |     |     |     |     | 810 |     |     |     |     | 815 |     |  |  |
| Gly | Ser | Ser | Gly | Leu | Cys | Asp | Val | Asp | Thr | Glu | Gln | Lys | Thr | Asp | Thr |  |  |
|     |     |     | 820 |     |     |     |     | 825 |     |     |     |     | 830 |     |     |  |  |
| Val | Pro | Met | Lys | Asp | Ser | Ala | Ala | Glu | Pro | Val | Ser | Pro | Pro | Thr | Pro |  |  |
|     |     | 835 |     |     |     |     | 840 |     |     |     |     | 845 |     |     |     |  |  |
| Thr | Val | Asp | Arg | Asp | Ala | Gly | Ser | Pro | Ala | Val | Val | Ala | Ser | Pro | Pro |  |  |
|     | 850 |     |     |     |     | 855 |     |     |     |     | 860 |     |     |     |     |  |  |
| Ile | Thr | Leu | Ala | Glu | Asn | Glu | Ser | Gln | Glu | Ile | Asp | Glu | Asp | Glu | Gly |  |  |
| 865 |     |     |     |     | 870 |     |     |     |     | 875 |     |     |     |     | 880 |  |  |
| Ile | His | Ser | His | Asp | Gly | Ser | Asp | Leu | Ser | Asp | Asn | Met | Ser | Glu | Gly |  |  |
|     |     |     |     | 885 |     |     |     |     | 890 |     |     |     |     | 895 |     |  |  |
| Ser | Asp | Asp | Ser | Gly | Leu | His | Gly | Ala | Arg | Pro | Thr | Pro | Pro | Glu | Ala |  |  |
|     |     |     | 900 |     |     |     |     | 905 |     |     |     |     | 910 |     |     |  |  |
| Thr | Ser | Lys | Asn | Gly | Lys | Ala | Gly | Leu | Ala | Gly | Lys | Val | Thr | Glu | Gly |  |  |
|     |     | 915 |     |     |     |     | 920 |     |     |     |     | 925 |     |     |     |  |  |
| Glu | Phe | Val | Cys | Ile | Phe | Cys | Asp | Arg | Ser | Phe | Arg | Lys | Glu | Lys | Asp |  |  |
|     | 930 |     |     |     |     | 935 |     |     |     |     | 940 |     |     |     |     |  |  |
| Tyr | Ser | Lys | His | Leu | Asn | Arg | His | Leu | Val | Asn | Val | Tyr | Phe | Leu | Glu |  |  |
| 945 |     |     |     |     | 950 |     |     |     |     | 955 |     |     |     |     | 960 |  |  |
| Glu | Ala | Ala | Glu | Glu | Gln | Glu | Glu | Gln | Glu | Glu | Arg | Glu | Glu | Gln | Glu |  |  |
|     |     |     | 965 |     |     |     |     | 970 |     |     |     |     |     | 975 |     |  |  |

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27